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DEPARTMENT OF THE INTERIOR

Bureau of Reclamation

[RR08100000, 16XR0680A1, RY.1541CH20.ECO1602]

Announcement of Requirements and Registration for a Prize Competition Seeking

Downstream Fish Passage at Tall Dams.

AGENCY: Bureau of Reclamation, Interior.

ACTION: Notice.

SUMMARY: The Bureau of Reclamation, in collaboration with other Federal agencies (U.S. Geological Survey, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration-National Marine Fisheries Service, and U.S. Army Corps of Engineers), is seeking new ideas for gaining successful and cost-effective downstream passage of juvenile fish at tall (high-head) dams. The solutions should minimize stress (e.g. crowding, removal from water, disorientation), physical damage on fish, interference with the operation of the dam (flood control, energy, water distribution), and total costs.

DATES: Listed below are the specific dates pertaining to this prize competition:

1. Submission period begins on [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].
2. A webinar concerning this prize competition will be held on [INSERT DATE 6 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

Instructions for participating in the webinar are included in the on-line postings at the addresses shown below. The webinar will also be recorded and posted at these same

addresses.

3. Submission period ends on [INSERT DATE 40 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

4. Judging period ends on [INSERT DATE 100 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

5. Winners announced by [INSERT DATE 120 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: The *Downstream Fish Passage at Tall Dams* Prize Competition will be posted on the following crowd-sourcing platforms where Solvers can register for this prize competition:

1. The Water Pavilion located at the InnoCentive Challenge Center:

<https://www.innocentive.com/ar/challenge/browse>.

2. U.S. Federal Government Challenge Platform: *www.Challenge.gov*.

InnoCentive, Inc. is administering this challenge under a challenge support services contract with the Bureau of Reclamation. Challenge.gov will re-direct the Solver community to the InnoCentive Challenge Center as the administrator for this prize competition. Additional details for this prize competition, including background information, figures, and the Challenge Agreement specific for this prize competition, can be accessed through either of these prize competition web addresses. The Challenge Agreement contains more details of the prize competition rules and terms that Solvers must agree with to be eligible to compete.

FOR FURTHER INFORMATION CONTACT: Challenge Manager: Dr. David Raff, Science Advisor, Bureau of Reclamation, (202) 513-0516, *draff@usbr.gov*; Ms. Connie

Svoboda, Ecosystem Restoration Prize Competition Theme Area Manager, (303) 445-2152, csvoboda@usbr.gov.

SUPPLEMENTARY INFORMATION: The Bureau of Reclamation is announcing the following prize competition in compliance with 15 U.S. Code 3719, Prize Competitions.

CHALLENGE SUMMARY: While downstream passage over tall (high-head) dams for some species and life history stages has been achieved to a limited degree, much improvement in downstream juvenile fish passage is still needed. Effective downstream passage, paired with effective upstream passage, would increase habitat availability that many threatened and endangered fish populations need to rebuild resilient populations.

New ideas for gaining successful and cost-effective downstream passage of juvenile fish at high-head dams are being sought by this Challenge. A solution is being pursued through a prize competition because the Bureau of Reclamation and the collaborating Federal agencies view it beneficial to seek innovative solutions from those beyond the usual sources of potential solvers and experts that commonly work in the fish recovery management domain. We find ourselves often wondering if someone, somewhere, may know a better way of providing downstream fish passage at high-head dams than the methods we currently use. The prize competition approach enables us to reach a new source of potential Solvers to generate new and timely solutions that would not likely be accomplished by standard contractual methods.

This is an Ideation Challenge, which has the following unique features:

- There is a guaranteed award. The awards will be paid to the best submission(s) as solely determined by the Bureau of Reclamation (The Seeker). The total payout will be \$20,000, with at least one award being no smaller than \$5,000 and no award being

smaller than \$2,500.

- ALL INTELLECTUAL PROPERTY RIGHTS, IF ANY, IN THE IDEA OR CONCEPT DEMONSTRATED BY THE PROPOSED SOLUTION WILL REMAIN WITH THE SOLVER. UPON SUBMISSION OF A PROPOSED SOLUTION TO THIS CHALLENGE, EACH SOLVER GRANTS TO THE SEEKER A ROYALTY-FREE, PERPETUAL, IRREVOCABLE, NON-EXCLUSIVE LICENSE AND RIGHT TO USE, DISCLOSE, REPRODUCE, PREPARE DERIVATIVE WORKS, DISTRIBUTE COPIES TO THE PUBLIC, AND PERFORM PUBLICLY AND DISPLAY PUBLICLY, IN ANY MANNER AND FOR ANY PURPOSE, AND TO HAVE OR PERMIT OTHERS TO DO SO. NOTWITHSTANDING GRANTING THE SEEKER A PERPETUAL, NON-EXCLUSIVE LICENSE FOR THE PROPOSED SOLUTION, THE SOLVER RETAINS OWNERSHIP OF THE IDEA OR CONCEPT DEMONSTRATED BY THE PROPOSED SOLUTION.

- The Seeker believes there might be a potential for future collaboration with awarded Solver(s), although such collaboration is not guaranteed. The Seeker may also encourage Solver(s) to further develop and test their winning submissions through subsequent round(s) of competition. Solvers should make it clear if they have the ability for subsequent design and development phases and would be willing to consider future collaborations and/or subsequent competitions.

Technical Requirements. Any proposed solution should address the following technical requirements. Concepts that meet some requirements, but not all, are eligible for an award.

1. Pass downstream-migrating fish in the size class 30-300 mm fork length.

2. Provide a way to efficiently guide fish to the entrance of the passage system.
3. Safely collect the majority of fish that pass close to the passage system, convey, and release the fish with a high survival rate (target is greater than 90% survival).
4. Be able to accommodate seasonal water surface fluctuations of up to 150 feet (i.e. the system must work when the reservoir water surface is at full pool, when it is 150 feet below full pool, and at all water surfaces in between).
5. Be able to pass fish swimming at the surface (0 to 10 ft.) and mid-depth (10-30 ft.).

Nice to have (not as important as the requirements above, but would add value to a submission):

1. Handle debris (sticks, logs, leaves, trash, etc.) in an effective way to prevent clogging of intakes and physical damage to fish. This can be a new method or an existing method that is incorporated or adapted to work with the passage system.
2. Minimize the need to confine fish in holding systems, mechanically crowd, or remove fish from the water.
3. Not result in a significant increase in the time it takes fish to pass the dam and preferably it will result in a decrease in passage time. For example, if fish currently pass the dam within 24 hours after arrival, a system that increased passage time by more than 50% (12 hours) would result in a significant impact to passage time.
4. Minimize impacts to recreation (e.g., boating, swimming).
5. Minimize impact to upstream-migrating fish and other biotic species in the system.

PROJECT DELIVERABLES: This is an Ideation Challenge that requires only a written proposal to be submitted. At least one solution will be deemed the winner. The submitted proposal should include the following:

1. Detailed description of a method and/or device. The Solver must describe with a high level of technical detail as to how the system would meet or not meet each of the “must have” and “nice to have” attributes in technical requirements described above. The Solver should expect that their submittal will be reviewed by experts in the field of biology and multiple fields of engineering.

2. Rationale as to why the Solver believes that the proposed method and/or device will work. This rationale should address each of the technical requirements and should be supported with relevant examples.

3. Drawings/sketches of the proposed downstream fish passage system.

4. Sufficient data to support claims, if available.

5. List of equipment required.

Submitted proposals should not include any personal identifying information or any information the Solvers do not want to make public or consider as their Intellectual Property they do not want to share.

JUDGING: After the Challenge deadline, the Seeker will evaluate the submissions and make a decision with regards to the winning solution(s). All Solvers that submitted a proposal will be notified on the status of their submissions. Decisions by the Seeker cannot be contested.

Submitted solutions will be evaluated by a Judging Panel composed of scientists, engineers, and other related technical experts. The Judging Panel will also have consultation access to technical experts outside of their expertise, as determined necessary, to evaluate specific submissions.

The Judging Panel will assess the merits of the solution by the degree that they

meet the technical requirements listed in the Challenge description and also by feasibility, flexibility to changing conditions (water level, temperature, and debris), overall costs, and scalability.

ELIGIBILITY RULES: To be able to win a prize under this competition, an individual or entity must:

1. Agree to the rules of the competition (15 U.S. Code § 3719(g)(1));
2. Be an entity that is incorporated in and maintains a primary place of business in the United States, or (b) in the case of an individual, a citizen or permanent resident of the United States (15 U.S. Code § 3719(g)(3));
3. Not be a Federal entity or Federal employee acting within the scope of their employment; (15 U.S. Code § 3719(g)(4));
4. Assume risks and waive claims against the Federal Government and its related entities (15 U.S. Code § 3719(i)(1)(B)); and,
5. Not use Federal facilities, or consult with Federal employees during the competition unless the facilities and employees are made available to all individuals and entities participating in the competition on an equitable basis.

The following individuals or entities are not eligible regardless of whether they meet the criteria set forth above:

1. Any individual who employs an evaluator on the Judging Panel or otherwise has a material business relationship or affiliation with any Judge.
2. Any individual who is a member of any Judge's immediate family or household.
3. The Seeker, participating organizations, and any advertising agency, contractor

or other individual or organization involved with the design, production, promotion, execution, or distribution of the prize competition; all employees, representatives and agents thereof; and all members of the immediate family or household of any such individual, employee, representative, or agent.

4. Any individual or entity that uses Federal funds to develop the proposed solution now or any time in the past, unless such use is consistent with the grant award, or other applicable Federal funds awarding document. NOTE: Submissions that propose to improve or adapt existing federally funded technologies for the solution sought in this prize competition are eligible.

CONSULTATION: Fish recovery program managers and technical specialists from across the Bureau of Reclamation, U.S. Geological Survey, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration-National Marine Fisheries Service, and U.S. Army Corps of Engineers were consulted in identifying and selecting the topic of this prize competition. Direct and indirect input from various stakeholders and partners associated with the fish recovery program efforts by these agencies were also considered. In addition, the Bureau of Reclamation maintains an open invitation to the public to suggest prize competition topics at www.usbr.gov/research/challenges.

PUBLIC DISCLOSURE: InnoCentive, Inc. is administering this challenge under a challenge support services contract with the Bureau of Reclamation. Participation is conditioned on providing the data required on InnoCentive's online registration form. Personal data will be processed in accordance with InnoCentive's Privacy Policy which can be located at <http://www.innocentive.com/privacy.php>. Before including your address, phone number, e-mail address, or other personal identifying information in your

proposal, you should be aware that the Seeker is under no obligation to withhold such information from public disclosure, and it may be made publicly available at any time. Neither InnoCentive nor the Seeker is responsible for human error, theft, destruction, or damage to proposed solutions, or other factors beyond its reasonable control. Solver assumes any and all risks and waives any and all claims against the Seeker and its related entities, except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from participation in this competition, whether the injury, death, damage, or loss arises through negligence or otherwise.

Dated: March 28, 2016.

David Raff
Science Advisor

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